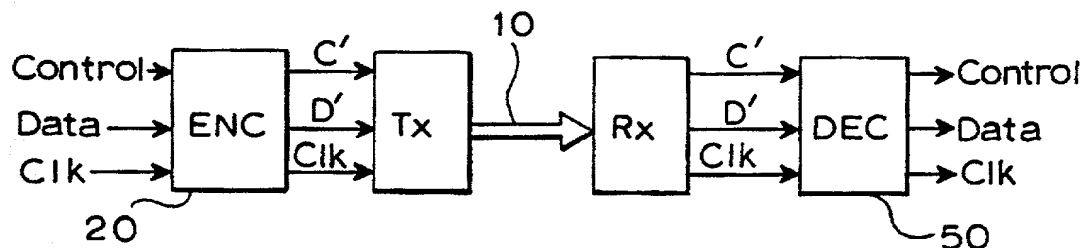




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(54) Title: DATA ENCODING/DECODING DEVICE AND APPARATUS USING THE SAME

**(57) Abstract**

A data encoding device has a serial data input and an encoded serial data output. The serial input is supplied to an encoding unit which combines each input bit with a plurality of additional encoding bits, to derive an encoded output bit and a plurality of updated encoding bits. The function performed by the encoding unit is selected such that over time the encoded output bit stream comprises substantially white noise. The output has constant and flat frequency response, so that the output of the encoding device is merely noise in the absence of an appropriate decoding device.